IPCAM
User's Guide

Version 1.03

Apr 2008, Judes Shao

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Server Version：2.4

Image Version：IPCam-1001-1218

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Chapter 1 **Product Introduction**

1.1 Package Contents:

Package content includes follows:

1. IPCAM
2. Installation Disk
3. Quick Installation Guide
4. Power Supply Adapter
5. Camera Stand with screws
6. Mounting Bracket
7. Cat 5 Ethernet Cable
8. Antenna(**ONLY** for wireless IPCAM)

pic1.1：IPCAM(Front Panel)

pic1.2：IPCAM (Rear Panel)

1.2 Minimum System Requirement:

1. CPU: Pentium III 1 GHz or above
2. Memory: At least 256MB
3. System: Microsoft® Windows® XP, 2000 or above
4. Browser: Microsoft® Internet Explorer 5.0 or above, Microsoft® Internet Explorer 6.0 is better.

1.3 Features

- **Standalone System:** IPCAM is a embedded digital video system, only needs power supply and Ethernet to work.
- **Support of Multi-protocol:** Supports TCP/IP, UPnP, HTTP, FTP, NTP, DNS, DDNS, DHCP, SMTP, PPPoE, and IEEE 802.11 a/b/g.
- **Ease-of-use:** Setup is based on Microsoft® Windows® and the management interface is used of web browser. The administrator can connect through local area network or internet for control and supervision easily.
- **View／Recoding:** Provide the friendly user windows to watch the immediate image/video. When you need leave a while of time or have already setup the record schedule, the application will record image/video and save to your storage device. The recorded files are standard Microsoft® Windows® Media format that suitable to widespread on other multimedia players.
- **Motion Detection:** Capture any small change of the image/video and compares

Pre/Post image/video. Send Email notification or upload to your FTP server.

- **User define HTTP port:** Without default port: 80, IPCAM can be setup the 2nd port, supports Internet gateway for port mapping, therefore that two or more IPCAMs can share an IP address with a WEB server.
- **DDNS Support**: Use a parameter instead of dynamic IP address. Whatever your IPCAM IP address changes It still has the simply parameter for you to use.
- **NTP Support:** NTP permits IPCAM and Network Time Server Auto-sync system time that has guaranteed the IPCAM image time accurately.
- **Manage User:** User must login user ID and password correctly for view and Administrator can setup 8 users.
- **Multi-User support:** Support up-to 10 people login at same time. View IPCAM video need user ID and password.
- **Password Protect:** To configure IPCAM need password, only the ID has the administrator rights can configure parameters.
- **Wireless Security Protect:** Support WEP (64/128 bit) and WPA to protect wireless safety strongly.
- **Support English, Traditional Chinese and Simply Chinese**

Chapter 2 Installation

According to steps in this manual, IPCAM can run on Local Area Net. IP address on Local Area Net can get through PC interface program and image displays when interface program links with IPCAM.

2.1 Preparation for installation

Please carefully read quick installation guide to get famaliar with IPCAM's functions and structure features. Prepare a long ethernet cable to link with network. Power adapter is around 2 meter, ensure it's long enough to link to power plunge.

2.2 Hardware Installation

This chapter introduces how to finish hardware installation and physical link. After that, IPCAM starts up with link of power supplier, at that time indicator light is on persistently.

1 Camera Installation:

2 One endpoint towards the screw socket, rotate light, then Camera Stand, and Mounting Bracket together.

3 Another point towards the camera's bottom groove, rotate clockwise and fix the camera on shelf as Picture 2.1.

4 Setup camera's direction and fix IPCAM in right position.

Picture 2.1

5 Link with Internet

IPCAM should link to 10/100M hub, switch or any other Ethernet equipment. Put one crystal head into Ethernet interface at the stern, another one into router or switch. The former interface will glow if link is right.

1. Ensure net cable less than 100 meters. Please use signal amplifier if longer
2. Please use provided power supply adapter, others causes hardware damage.
3. Ensure Ethernet cable is no-modem mode while PC and IPCAM link directly.

6 Link with power supplier

Plug power adapter output into IPCAM, and switch it on (picture 2.2).

※**Note**: Make sure using the adapter in package, otherwise it will cause some hardware damage.

Picture 2.2

7 Checking LED Light

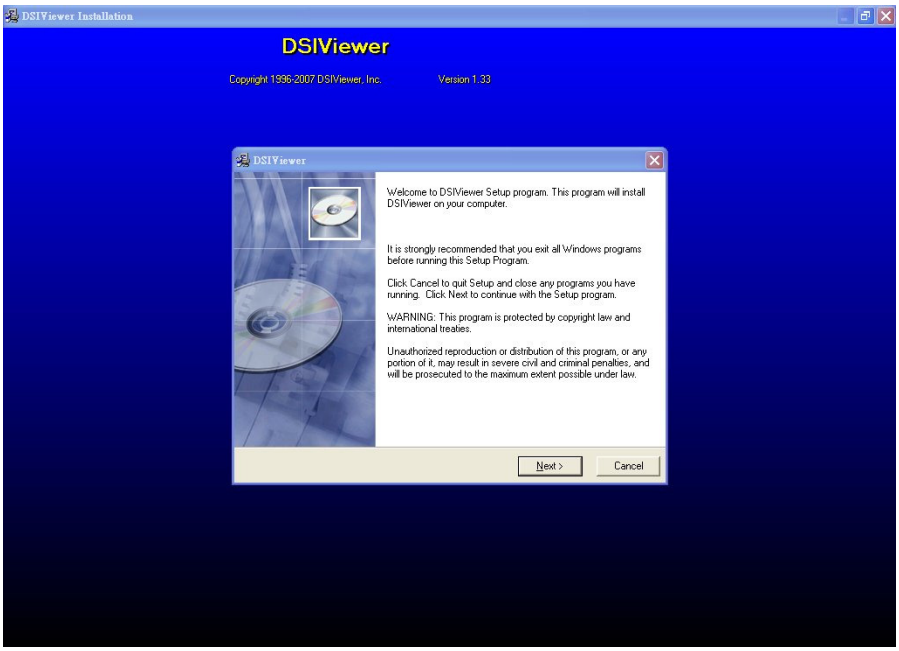
While power on, Camera starts and the yellow light at the stern will persistently glow. In the darkness, two lights at the front of camera can help to see clearly.

2.3 Software Installation

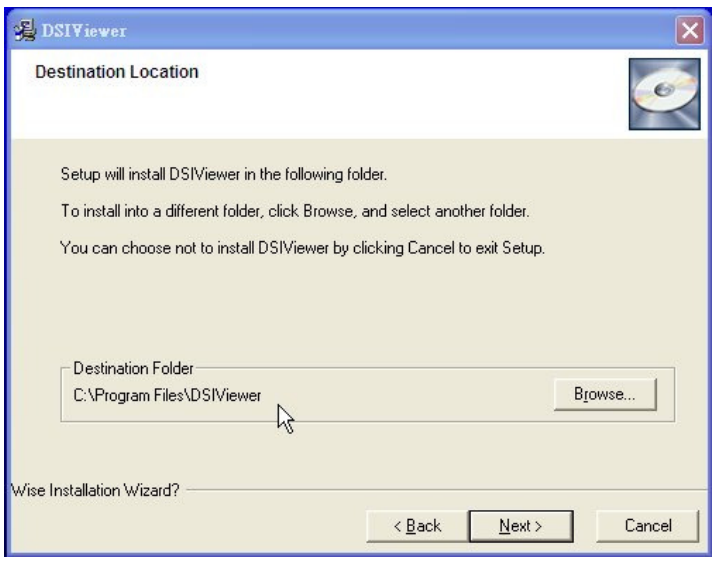
Initial installation should be programmable by ***DSIViewer*** in disk, after software installation, DSIViewer can search for all IP addresses on net automatically, then view and set it on LAN.

1. Put the CD into computer driver, and then installation system will run automatically. If not, open the disk and double click ***"Setup.exe"***, you will see ***welcome*** interface

2. Then appears ***DSIViewer*** introduction as Picture 2.4 and click 【**Next**】 after quick skip to finish installation


DSIViewer Installation
DSIViewer
Copyright 1996-2007 DSIViewer, Inc.
Version 1.33
DSIViewer
Welcome to DSIViewer Setup program. This program will install DSIViewer on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup Program.
Click Cancel to quit Setup and close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

Picture 2.4： Interface 1

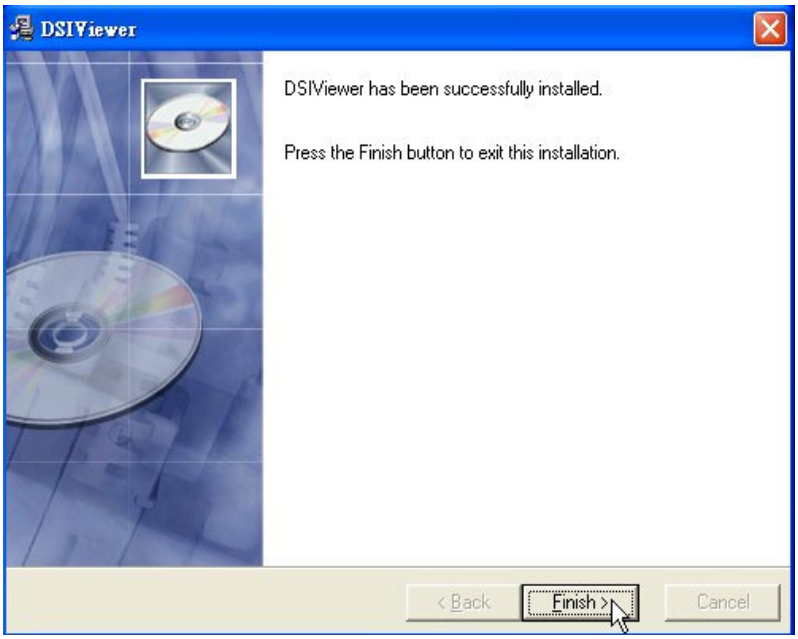

DSIViewer
Destination Location
Setup will install DSIViewer in the following folder.
To install into a different folder, click Browse, and select another folder.
You can choose not to install DSIViewer by clicking Cancel to exit Setup.
Destination Folder
C:\Program Files\DSIViewer
Browse...
Wise Installation Wizard?
< Back
Next >
Cancel

picture 2.5： *path choice*

3. Wizard helps user finish installation, and experienced user can click "Browse", select

installation path as Picture 2.5 and then click【**Next**】gradually.

4. When Picture 2.6 appears, click【**Finish**】 to complete installation. Interface ejects automatically by program and user can see image after simple set.

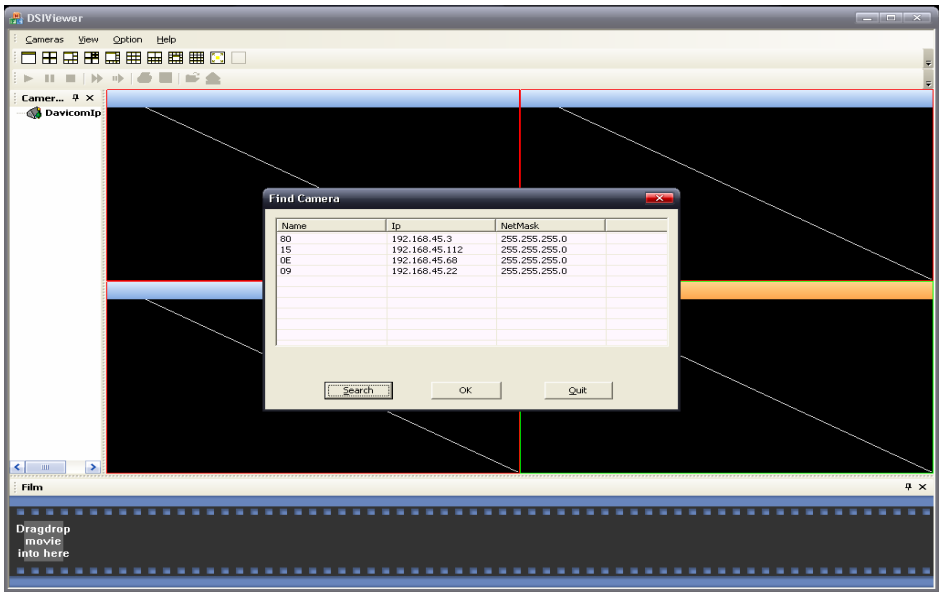


Picture 2.6

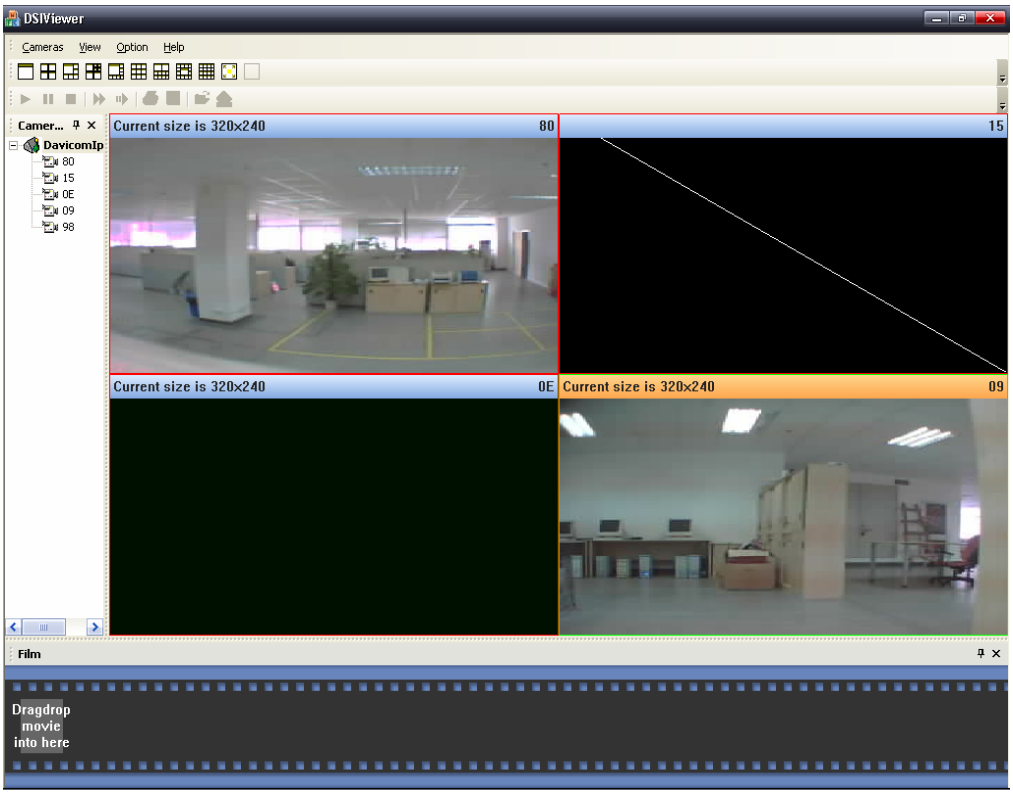
8 Program can run automatically after installation. Click 【**Find Camera**】 in **Camera** and then it pop on. Program searches for all IPCAM information, please wait for 5-10 seconds; interface will display all as Picture 2.7.

9 Click ***"OK"*** and then image displays as Picture 2.8. If users change administrator's name and password, please input new one in ejected interface.

10 Install Adobe reader and Java 1.50 in disk.



Picture 2.7：***Find Camera*** interface



Picture 2.8： ***System*** function

Chapter 3 Configure IPCAM on Web

After installation in Chapter 2, IPCAM can work on LAN directly. IP address gets through interface program, then login IPCAM on PC through IE Explorer and for further setup.

This chapter describes other information for setup and real-time image choice

- View through Browser
- Image and parameter setup
- Control login user quantity
- Remote image parameter setup
- DS/Mail warning and other features
- Parameter setup for FTP uploads

Warning:

Please change administrator password for first time under TOOL interface.

i. If user forgets password, press and hold “reset” at the stern of machine for 5 seconds. IPCAM can restore factory setup parameter.

ii. After restart, please change IPCAM system time on SNTP interface. User can check time and other condition on Status interface

User Name : admin

Initial Password: 1234

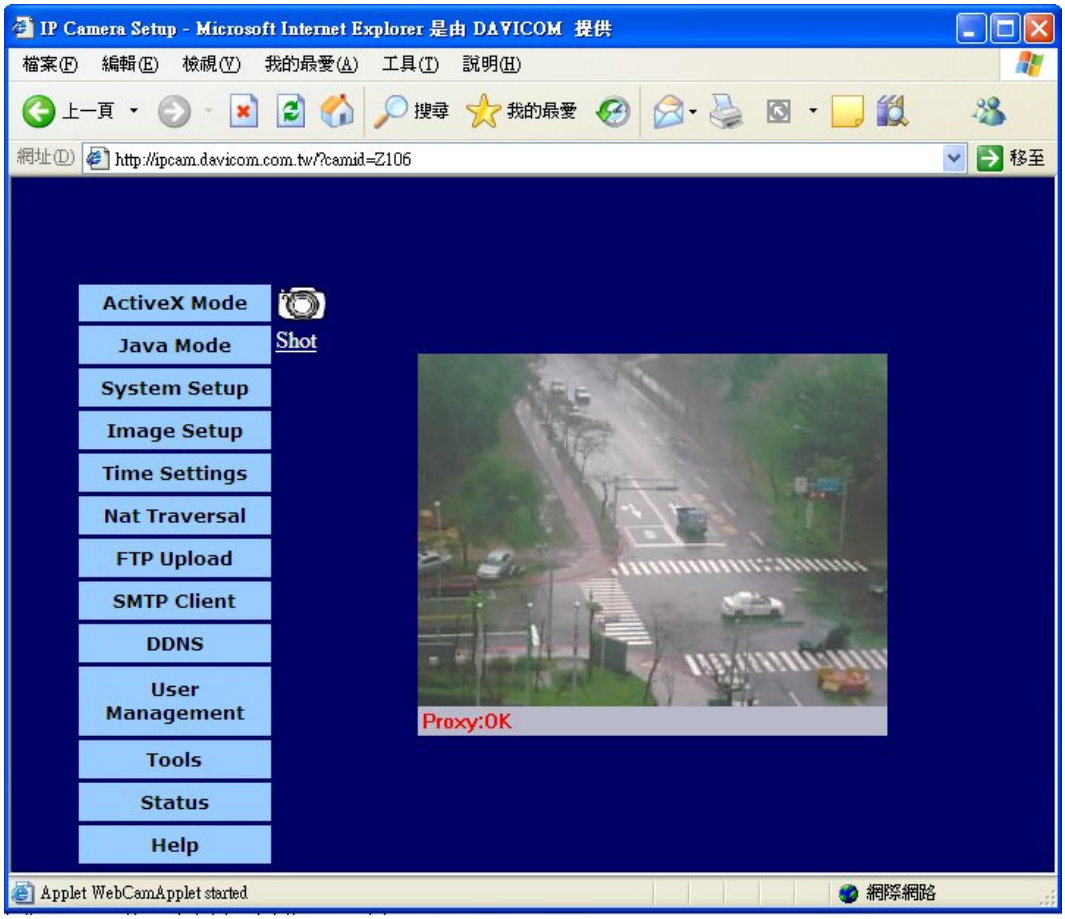
IP address on LAN enables browser login IPCAM’s Web interface. If on Internet, so as all public net IP addresses for IPCAM and TCP port mapping.

3.1. View

Input IP Address on browser bar, press **“Enter”** and login, then IPCAM image interface is on as Picture 3.1. Default mode is ***ActiveX Mode*** that plug-in should install for first time. If browser bans for this, user should click ***“allow to install Active plug-in”***. It also supports by **Java mode**, JAVA 1.5 in disk should install. If by manual, browser can download it automatically from Internet.

ActiveX Mode suggests.

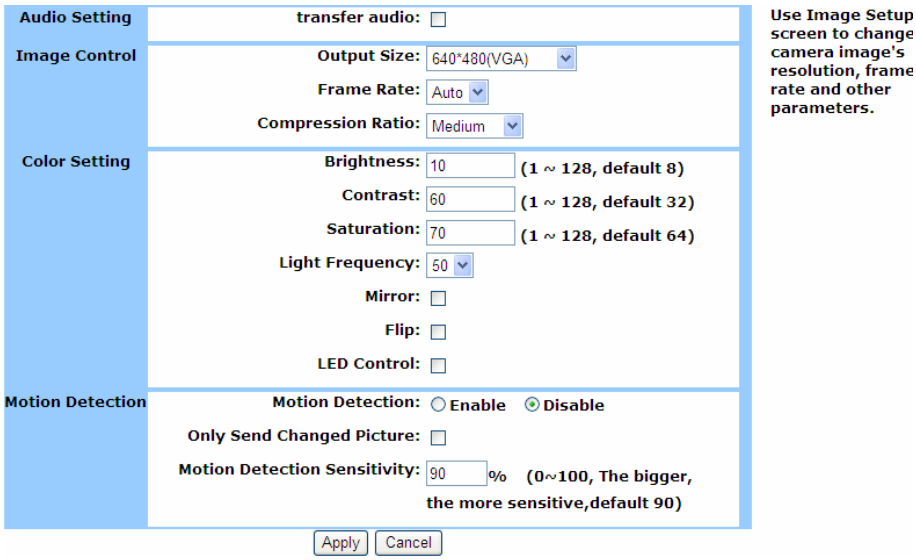
On left side of Picture 3.1 is choice button for functions that help users setup IPCAM. On right side is display area that depends on left choice buttons. The left side of picture describes in later part.



Picture 3.1 ***View***

3.2. Image Setup

Image parameter is default for first use to meet most requirements. Alternatively, user can setup image within allowable range in **【image Setup】** to reach the best effect.



Picture 3.2 ***Image Setup***

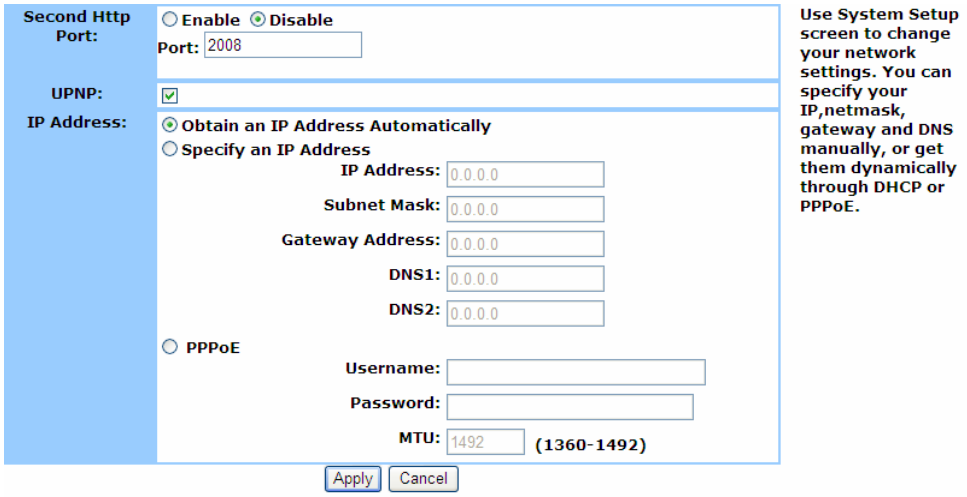
The above is parameter and range for Image Setup

Image Control	Output Size	**Three modes for menu side 160*120（QQVGA）,320*240（QVGA）, 640*480（VGA）. Bigger image size needs higher bandwidth**
	Frame Rate	**Higher the frame rate, more fluently the transition. “Auto” is better**
	Compression Ratio	**Higher compression ratio decreases image quality. Smaller image needs lower bandwidth**
Color Setting	Brightness	**Brightness can be adjusted to reach best image effect,(1—128)**
	Contrast	**Contrast can be adjusted to best effect (1—128)**
	Saturation	**Saturation can be adjusted set up different condition.(1—128)**
	Light Frequency	**50 Hz or 60 Hz for power supply frequency. Right set can increase definition under daylight lamp.**
	Mirror	**Mirror effect makes image change just as in mirror.**
	Flip	**Flip effect makes image twist just as camera lens twist for 180°**
	Motion Detection	**Red “Motion” appears on left side when**

		motion detected. Send mail or upload it to appointed FTP server.
	Only Send Changed JPEG Frame	**Only send changeable frame and supervised image.**
	Motion Detested Sensitivity	**Sensibility ranges from 1 to 100.Higher sensibility increases misinformation.**

3.3. System Setup

For first time, IPCAM can get an IP Address automatically. Generally, default port for web service is 80, considering factors of multi web servers or multi IPCAM, so it is necessary to configure a second port for IPCAM, initial second port setup for IPCAM is 2006. If users want another port number, appoint in **【system setup】** to get it. Meanwhile user can change your IP Address through a new Internet link by PPPOE.



Picture 3.3 ***System Setup***

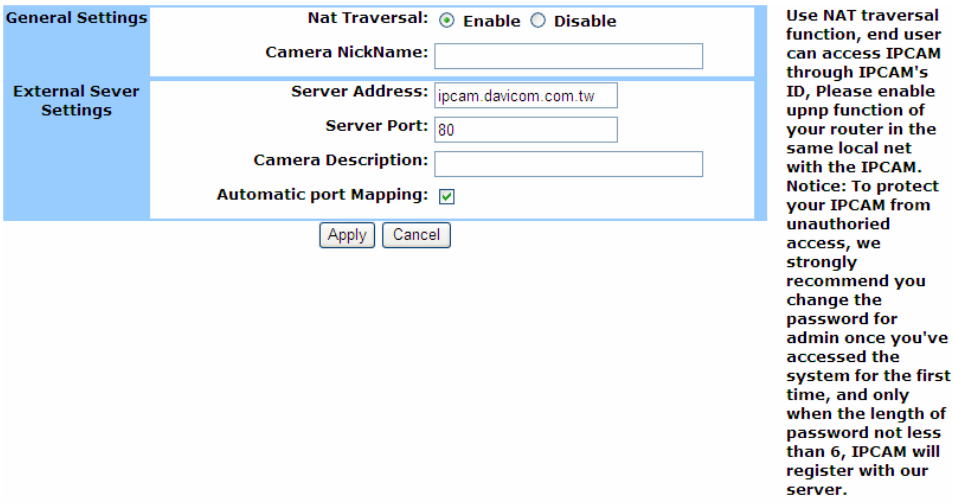
The above is parameter and range for System Setup.

2nd Http Port	Host Port	**Set http "second port" except 80**
UPNP		**Router supports UPNP on**
IP Address	Obtain an IP Address Automatically	**IPCAM can get IP automatically through DHCP with your router support this service**
	Specify an IP Address	**IP Address: Set IP Address for IP Cam Subnet Mask: Set subnet mask for**

	PPPOE Login	**IPCAM** **Gateway Address: set gateway address for IPCAM** **DNS Address: Set DNS server address** **Login Internet through PPPOE account, IP Cam gets an IP Address automatically from ISP. Input PPPOE user name in user name and PPPOE PIN in password.** **1492 for MTU**

3.4. Nat Traversal

Nat Traversal is a good solution for most users who do not care many technique issues. Ensure IPCAM can run normally, remember given name, after inputting it in web browser on other location, user can view Cam's image.


General Settings
Nat Traversal: Enable Disable
Camera NickName:
External Sever Settings
Server Address: ipcam.davicom.com.tw
Server Port: 80
Camera Description:
Automatic port Mapping:
Apply Cancel
Use NAT traversal function, end user can access IPCAM through IPCAM's ID, Please enable upnp function of your router in the same local net with the IPCAM.
Notice: To protect your IPCAM from unauthoried access, we strongly recommend you change the password for admin once you've accessed the system for the first time, and only when the length of password not less than 6, IPCAM will register with our server.

Picture 3.4：***Nat Traversal*** Interface

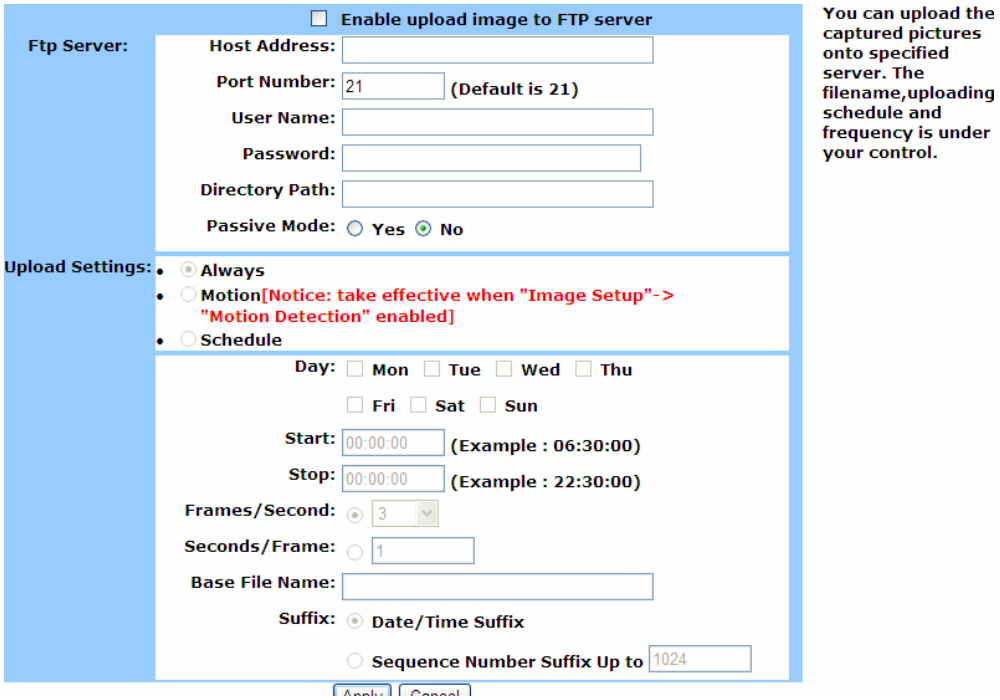
The above is parameter and range for Nat Traversal

Nat Traversal	**Camera Nick Name**	**Start-up Nat Traversal function, set a name for your IPCAM which Mail address is suggested.**
External Server Settings Server Address	**Server Address**	**IPCAM needs register in public server where keeps all information links to Internet. User can enter IPCAM's nickname for login, actually all the date transferred by server.**

	Server Port **Camera Description**	**Server sets out port number for DDNS service.** **Description of IPCAM can be in different position.**
Automatic port Mapping		**Inner IP address and port are mapping to outside network, authentic data display on Status Interface. User can login IPCAM through these address and port.**

3.5. FTP Upload

This service can satisfy users when net condition is not good or record monitoring for certain time。After startup this service, IPCAM captures pictures according to certain appointed period, name and upload to appointed FTP server. This service also can support to record changeable image by startup ***Motion Detect*** service in ***Image setup*** as Pic3.5


Enable upload image to FTP server
Ftp Server:
Host Address:
Port Number: 21 (Default is 21)
User Name:
Password:
Directory Path:
Passive Mode: Yes No
Upload Settings:
Always
Motion[Notice: take effective when "Image Setup"-> "Motion Detection" enabled]
Schedule
Day: Mon Tue Wed Thu Fri Sat Sun
Start: 00:00:00 (Example : 06:30:00)
Stop: 00:00:00 (Example : 22:30:00)
Frames/Second: 3
Seconds/Frame: 1
Base File Name:
Suffix: Date/Time Suffix
Sequence Number Suffix Up to 1024
You can upload the captured pictures onto specified server. The filename,uploading schedule and frequency is under your control.

Picture 3.5：***Upload*** Interface

The above is parameter and range for UPLOAD

FTP Server	Host Address Port Number	**FTP server address can be IP Address or Domain name** **Default for FTP server port is 20.**

	User Name	**User's name for FTP server**
	Password	**Login password for FTP server**
	Directory Path	**Directory Path for FTP server. Appointed path is established one. IP Cam cannot set folder.**
	Passive Mode	**It setup depends on your FTP server. "YES" is passive and "NO" is active.**
Time Schedule	Always	**There is no time limit to upload pictures.**
	Motion	**Send picture to FTP server when motion detected.**
	Schedule	**Schedule certain period to upload pictures. Range is 00:00:00-23:59:59**
Video Frequency	Frames/Second	**Set frames for each second. You can choose 1,2.3 or Auto**
	Seconds/Frame	**Input a whole number to set seconds to upload each frame**
File Name	Base File Name	**Each uploaded image includes this Base File Name and adds different segment after.**
	Date/Time Suffix	**Upload Date/Time as suffix after "Base File Name"**
	Sequence Number Suffix Up	**Sequence number as suffix after "Base File Name" from "1". If exceeding number in box, cover former uploading pictures from "1".**

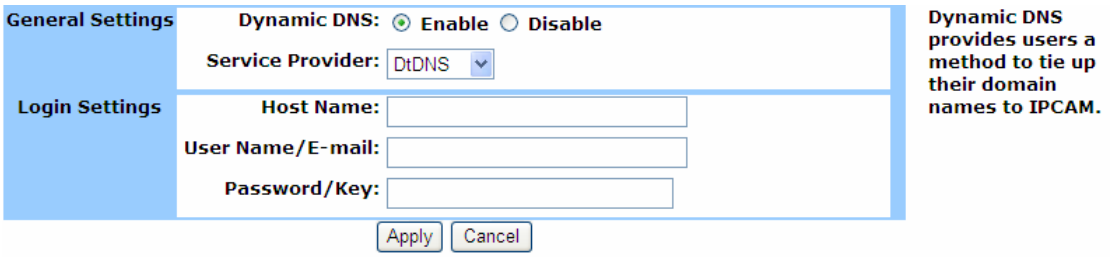
3.6. DDNS

Most net links by dynamic IP Address that means other users on Internet cannot link and login without IP address. DDS is specializing to solve the problem that allows user link by a domain name just as IP Address. How to use DDNS

1. Register DDNS service from its supplier, one domain name allocated after application.
2. Input and keep right DDNS setup on 【**setup**】interface of Wire/Wireless IPCAM

3. IPCAM can automatically link server to register new IP Address when IP changes detected
4. Users can link to allocated Internet domain on LAN.

As picture 3.6 DDNS ***setup*** interface

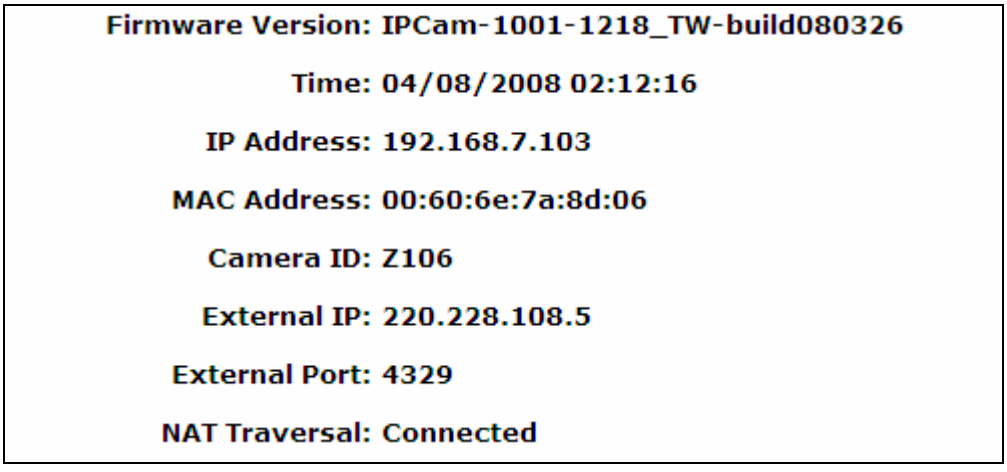


Picture 3.6：***DDNS setup*** interface

The above is parameter and range for DDNS

DDNS	Dynamic DNS	**This option can control DDNS function. This function sets out after application.**
	Service Provider	**Choose a service supplier from list.**
	Host Name	**Input allocated domain name after register DDNS**
	User Name/E-mail	**Input user's name or E-mail for DDNS register**
	Password/Key	**Input DDNS password**

3.7. Status



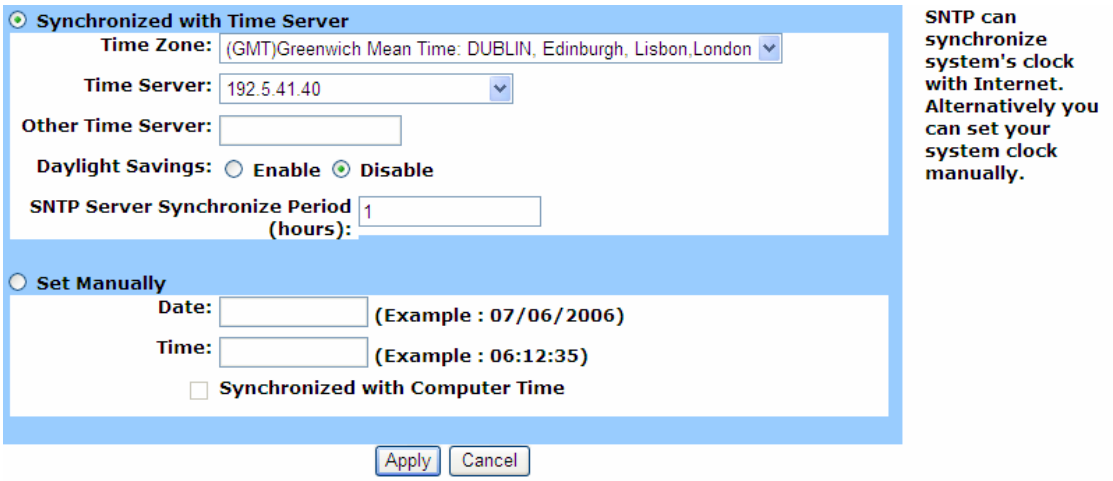
Picture 3.7 **IPCAM Information**

The above is effect and meaning for parameter

Status	Firmware Version	**current software version for IPCAM**
	Time	**Current system time for IPCAM**
	IP Address	**Current IP Address for IPCAM**
	MAC Address	**Current MAC address for IPCAM**
	Wireless connection status	**Current wireless connection condition for IP Cam(ONLY displayed on wireless mode)**
	Camera ID	**Current ID number for IPCAM(Every one IPCAM ID is ONLY)**
	External IP External Port	**Internet public IP and port produced from Port mapping successful (Your router must turn on UPnP function, or these values both are empty.)**
	Nat Traversal	**Current connect status with NAT traversal server.**

3.8. Time Setting

This service can synchronize IPCAM's system time with internet timeserver. User should synchronize system time at first, select time zone and server, then click "Enter" to finish this. Alternatively, by manual, user still can tick **【Synchronized with Time Server】**"o that. As Picture 3.8：



Picture 3.8 SNTP interface

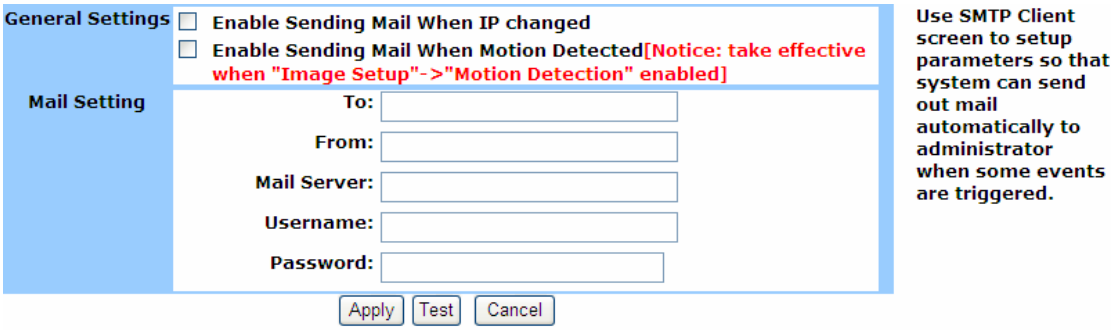
The above is parameter and range for SNTP

Synchronized with Time Server	Time Zone	**Choose located time zone**
	Time Server	**Choose an internet time server**
	Other Time Server	**Input IP Address for other time server**
	SNTP Server Synchronize Period	**Setup sync SNTP server period automatically**
	Daylight Savings	**Setup Daylight or not**
Set Manually	date	**Set date as examples**
	Time	**Set time as examples**
	Synchronized with Computer Time	**Enable or disable IP Cam system time syncs with PC time**

3.9. SMTP Client

This service enables sending report or detected image to appointed mailbox when IP changes or motion detected.

As Picture 3.9：


General Settings
Enable Sending Mail When IP changed
Enable Sending Mail When Motion Detected[Notice: take effective when "Image Setup"->"Motion Detection" enabled]
Mail Setting
To:
From:
Mail Server:
Username:
Password:
Apply
Test
Cancel
Use SMTP Client screen to setup parameters so that system can send out mail automatically to administrator when some events are triggered.

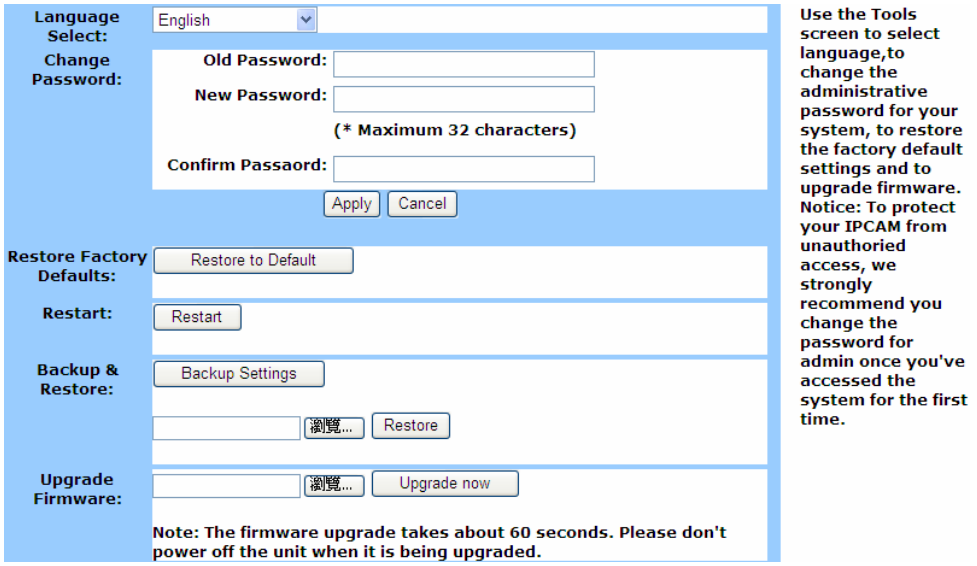
Picture 3.9 ***SMTP Client*** interface

SMTP Client	Enable Sending Mail When IP changed	**Tick this box and enable sending mail when IP changed**
	Enable Sending Mail When Motion Detected	**Tick this box and enable sending mail when motion detected**
	to	**address to receive mail**
	from	**address to send mail**
	Mail Server	**server address to receive mail**
	Username	**User's name to send mail**
	Password	**password for mailbox**

3.10. Tools

In this page, user can amend administrator's password, restore default and upgrade firmware that should download to local PC before upgrades. As follows:

1. Click 【***Browser***】 and find upgraded file
2 Select this document and click 【ok】, path will display in the space
3 Click 【Start Upgrade】 and it begins about one minute. After a while of time the IPCAM restart and link error display on viewer's browser. Please do **NOT** restart or shut down power during firmware upgrade period.


Language Select:
English
Change Password:
Old Password:
New Password:
(* Maximum 32 characters)
Confirm Passaord:
Apply
Cancel
Restore Factory Defaults:
Restore to Default
Restart:
Restart
Backup & Restore:
Backup Settings
瀏覽...
Restore
Upgrade Firmware:
瀏覽...
Upgrade now
Note: The firmware upgrade takes about 60 seconds. Please don't power off the unit when it is being upgraded.
Use the Tools screen to select language,to change the administrative password for your system, to restore the factory default settings and to upgrade firmware. Notice: To protect your IPCAM from unauthoried access, we strongly recommend you change the password for admin once you've accessed the system for the first time.

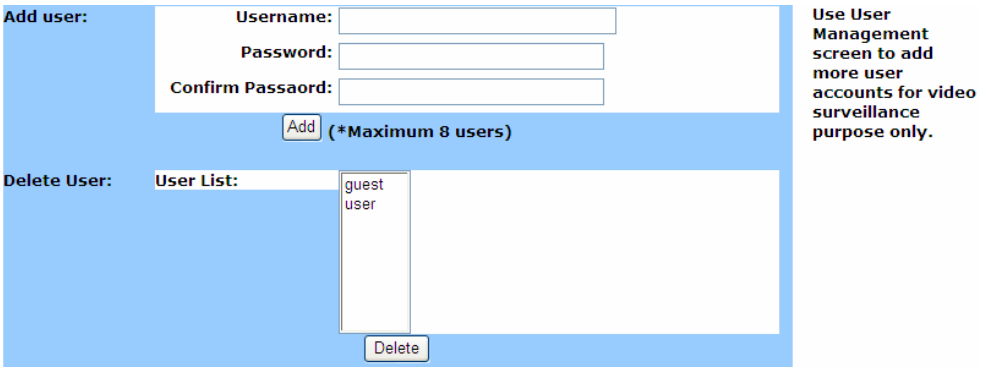
Picture 3.10 ***tools setup*** interface

tools	Change Password	**Input current and new password, then confirm it.**
	Restore Factory Defaults	**All restore to factory default**
	Reset	**Parameter keeps same after restart**
	Upgrade Firmware	**Click 【Browser】 to select path for upgrade file, then click 【upgrade now】**

3.11. User Management

Administrator can add up to 8 users. Ordinary users watch IPCAM image only through Web and have no rights to amend parameter. Administrator input user's name and password, click "add" to increase users or "cancel" to delete users.

As picture 3.11：

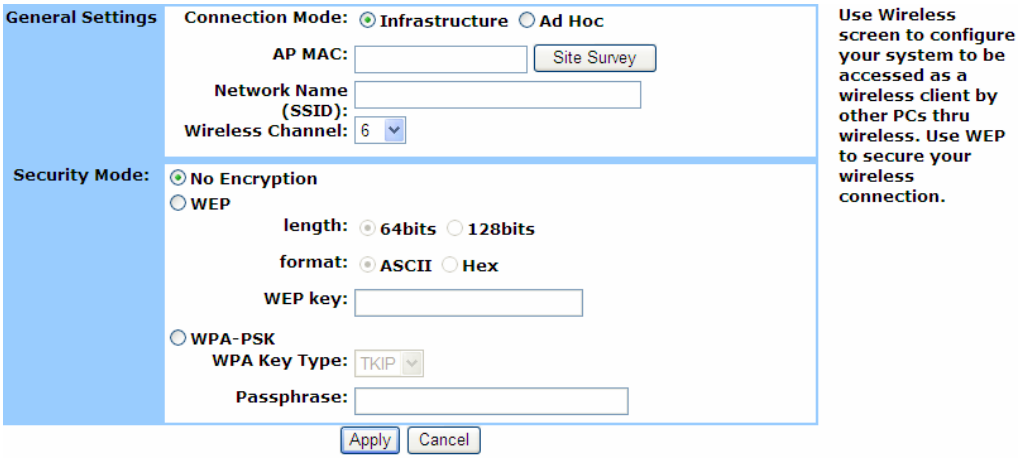


Picture 3.11 ***User Management*** interface

Add user	Username	**Name for new added user**
	Password	**Password for user**
	Confirm password	**Confirm password**
Delete user		**Select name to delete and click 【Delete】**

3.12. Wireless (ONLY wireless IPCAM)

The IPCAM can connect the network through the wireless way, but this need your IPCAM support wireless connection. If your IPCAM does not support wireless function, your IPCAM embedded web page cannot appear this page. As picture 3.12：



Picture 3.12 Wireless

General Setting	Connection mode	**【Infrastructure】: Connect with wireless router(AP)** **【Ad Hoc】: Point-to-point connection with wireless client (ex: PC, NB…)**
	AP MAC	**current MAC address of Wireless device after【Site Survey】to scan.**
	Network Name(SSID)	**current Wireless device name after【Site Survey】to scan.**
	Wireless channel	**Current wireless device channel after【Site Survey】to scan.**
Security mode	No Encryption	**Open wireless network. no need any password.**
	WEP	**WEP Encryption (WEP 64bit and ASCII, password long is 5; WEP 64bit and Hex, password long is 10; WEP 128bit and ASCII, password long is 13; WEP 128bit and Hex, password long is 26.)**
	WPA-PSK	**WPA Encryption, password long is 8~63.**

How to connect wireless network:

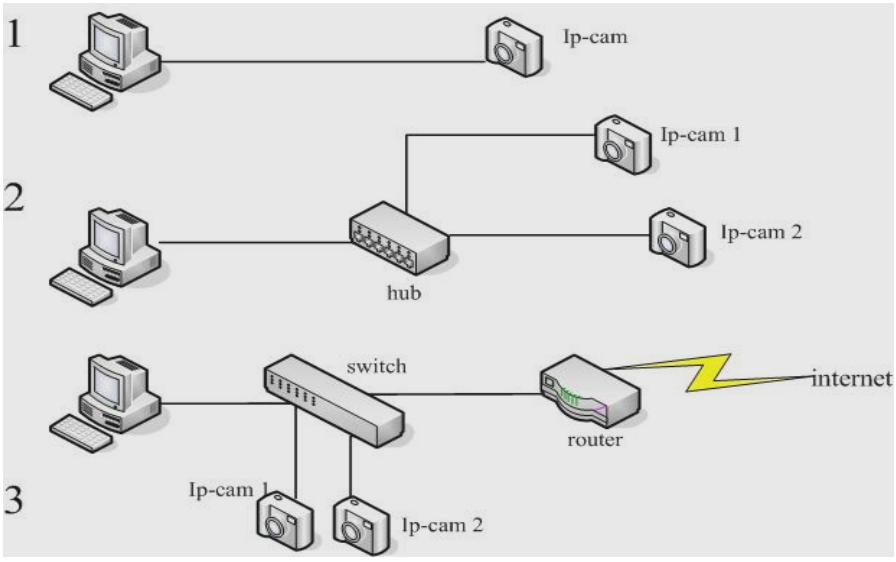
1. IPCAM use wired way connect to network and open wireless page on your PC Browser..
2. Select【**Infrastructure**】on connection mode and then click【**Site Survey**】button, and select you want to connect wireless device name on POP-UP windows, and then click【**connect**】 button..
3. select encryption mode, input password, click【**Apply**】.
4. Select【**Status**】, check wireless connect status. If wireless connect failed, please check password correctly, signal enough strongly and try reconnect.
5. If wireless status display connect successful, you can plug out Ethernet cable and the IPCAM will connect network automatically never need re-setup the wireless settin

Chapter 4 How to watch IPCAM

IPCAM runs after setup on Web. According to different position, users can watch IPCAM by three methods:

1. Non-modem and/or HUB on LAN
2. Link with Internet by PPPOE (IP is dynamic)
3. Static IP links with Internet.

4.1 On LAN



Picture 4.1 On LAN

This mode runs when PC is on LAN, IPCAM and PC links directly through net cable (non-modem mode) or Hub's link with Switch. At that time IPCAM and PC locate on same LAN and same IP address domain, it generally is a private and subnet is as 255.255.255.0.

Note!	1. If link through 1 in Picture 4.1, please ensure use cross cable. if not, it can't link with IPCAM. 2. HUB and SWITCH can exchange in Picture 4.2

Steps

According to steps in guide, finish installation for IPCAM and DSIViewer. (Install DSIViewer first, then get IPCAM's IP Address and superior operation can continue gradually.)

- **View through DSIViewer**

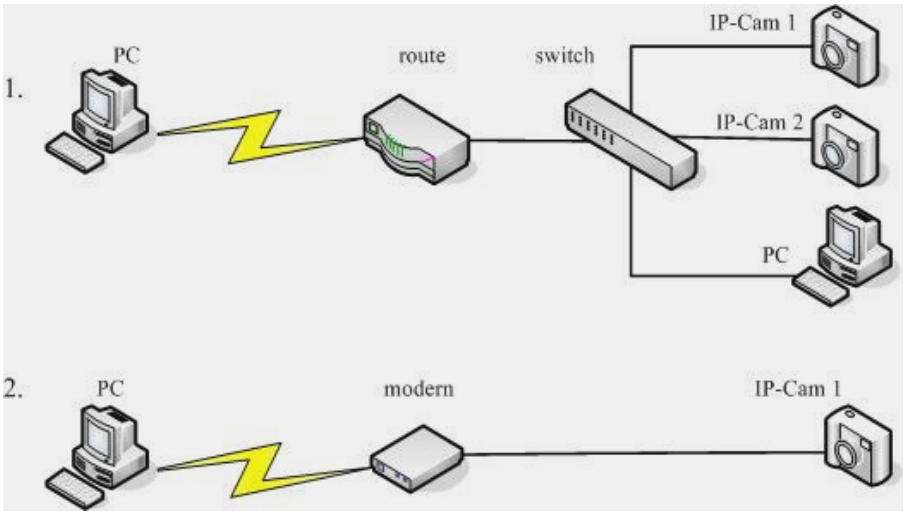
After that, DSIViewer searches for IPCAM automatically, show all addresses and nicknames on window. Select IPCAM and image displays after login. Please remember IP Address if view through browser.

- **View through browser**

Input IP address on browser bar and click ***"Enter",*** image displays after login.

Choose required IPCAM in ***"Camera"***, get ***Edit*** on right key, click ***"camera web site"*** then image displays.

4.2 Dynamic IP link with Internet



Picture 4.2 ***Dial-up*** with internet

It means IPCAM links with Internet through ADSL or other dial-up methods, as IP address is dynamic. As 1 in picture 4.2, through a modem with router, many people share a telephone line dial up to Internet that applied in multi-computer families. As 2 is link with one IPCAM through PPPOE dial-up.

Common consumers must solve problem of dynamic IP address when view from remote. IP address positions equipment on WAN that is essential to login and get service from server .Generally individual family uses ADSL modem login the Internet and get IP address from ISP for each time. Those who have professional knowledge can get public IP address by introduction for superior users.

4.2.1 How to judge your IPCAM link with Internet

User can select any timeserver to update IPCAM clock in ***SNTP,*** if it syncs the current time and date that means it has linked with Internet. User can also make simple setup on ***SMTP Client*** and use ***Test*** function. If get a mail, it means it has linked with Internet.

4.2.2 Nat Traversal

Nat Traversal is a solution to solve consumer's special requirement. Users only need enable this service and give a **Camera Nickname** for his IP Cam, E-mail address is better (Server address and Server Port are default in Nat Traversal interface. Address is www.ipcam.davicom.com. Port is 80). When users view through Internet, input the address:"http://www.davicom.com.tw"， and Cam ID ,or **Camera Nickname** press "Enter" to select IPCAM, image displays after login. Cause of many IPCAM's nickname closely, It suggests user would describe IPCAM in ***"Camera Description"*** to avoid this.

After installation of IPCAM and DSIViewer, Nat Traversal service needs startup. Give a name to IPCAM, server address and server are default, then describe it in ***Camera description***, click "***Apply"*** after that. This part should apply on LAN.

As the chart 4.3 is the server page about Nat Traversal.

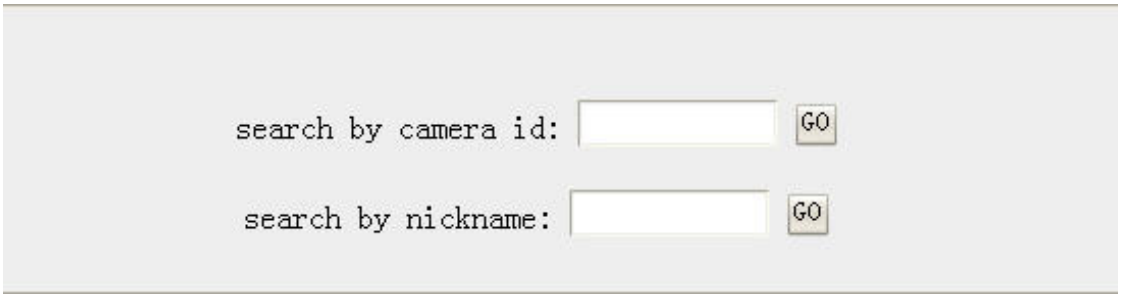
1. Transfer of Nat Traversal through the third server. View on Internet has better effect.

2. User needs to pay to use the third server. Current our service is free.

※**Note**: Please turn on **UPnP** function on the router is important for NAT Traversal.

■ **View through browser**

Input Cam's ID and/or Nickname in viewer's internet browser with www.davicom.com.tw web site, then click "confirm", as Picture 4.3 get Nat Traversal server page on.



Picture 4.3 ***Nat Traversal Server*** page

With transfer to ***Camera List*** as Picture 4.4, choose IPCAM; user can view it after

login.

Picture 4.4 ***Camera List*** page

- **View through DSIViewer**

Installed DSIViewer on remote PC, viewer sets server IP in option -> preferences -> mixed, which is 220.248.74.182 and port 80. Setup a **New camera** on ***Cameras***; input far away IPCAM's ID, user name and password, then click ***"Connect"***. Thus, the image will present on.

4.2.3 UPNP and Port Mapping

Router need support and enable UPNP function. Enter Nat Traversal setup page, select ***"automatic port mapping"*** service. If it is OK, user can see External IP and port (not 0) on ***【Status】*** then keep them.(Part should be programmable on LAN)

Note!	1. The dial-up ADSL modem gets dynamic IP address that changes every handshake, so External IP maybe different between this time and last. Please check it in time. 2. After installation, set a "static" IP address for IPCAM. Please refer System Setup in Part3.3

- **View through browser**

Input this External IP and port in browser address bar on remote Internet, use ***":"*** to link them. Eg: http://220.228.108.5:2006, press "enter", then login.

- **View through DSIViewer**

After DSIViewer installation on Internet remote PC, rebuild a new camera in ***"Cameras"***. Set External IP as camera IP and External Port, input correct user name and password, click ***"connect"*** then watch it.

4.2.4 PPPOE link

WhileIPCAM links with Internet without PC on network that can link telephone line by Modem with PPPOE mode. Therefore, user can get IPCAM's image through PC on the internet anywhere.

How to use IPCAM dial-up link with Internet? To setup the PPPOE, please enter ***System setup*** in ***DSIViewer***; select PPPOE Login in IP address item, input user name and password, then click ***"Apply"*** to finish. Shut down IPCAM, take it to required place, plug power and net cable in. To view IPCAM need further steps. View through DDNS: DDNS links IPCAM and viewer together, which converts dynamic IP Cam address into a static domain name.

How to use DDNS

1. Register DDNS service from supplier, a domain name is allocated after application meanwhile a user name and password;
2. Open IPCAM DDNS setup page
3. Input DDNS' website, user name and password.
4. User just input allocated domain name on browser, which can keep the link-and-get IPCAM address renew automatically,

Note!	1. Use this function after application in DDNS server 2. Operate according to supplier's requirement. 3. DDNS service only runs by IPCAM link with PPPOE

IPCAM is available by DDNS just as on PC, because DDNS server links browser and IP Cam at back. Users remember domain name rather than address, then browser can search IP automatically and link it. This process is transparent for user.

Inform new address by mail

Open SMTP service on **SMTP Client setup page**, tick ***"Enable Sending Mail When IP changed"***. After that, IPCAM will send a mail to user as changes detected, which help to find IPCAM again.

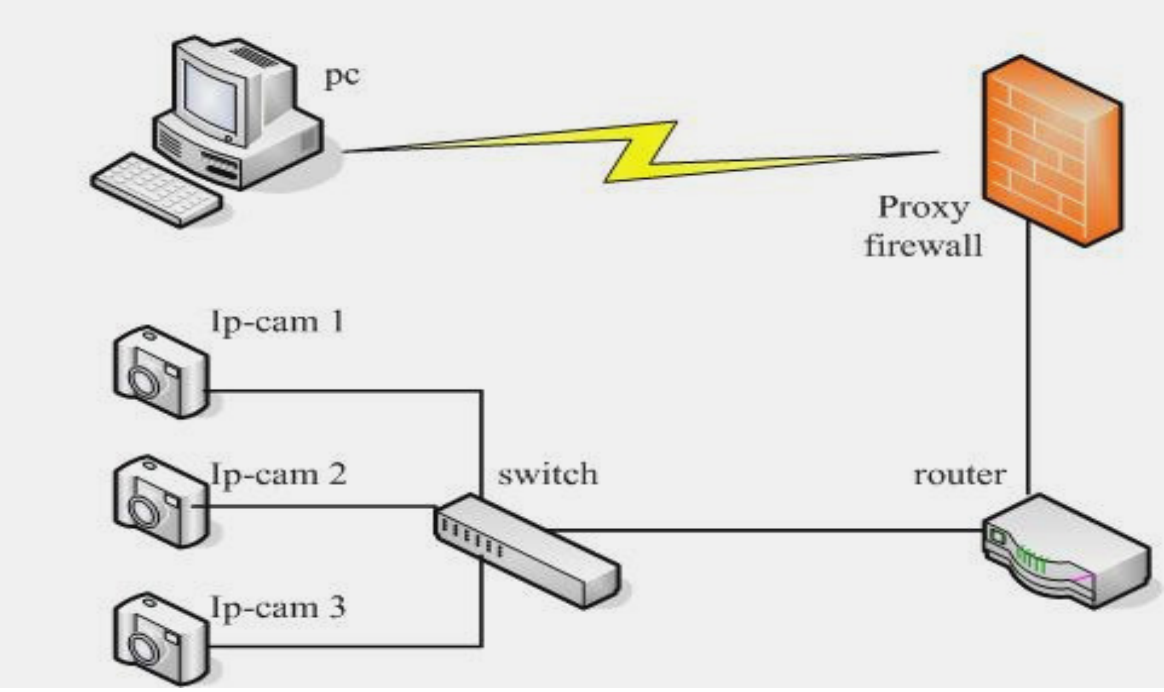
Note!	1. IP address at this time is public, HTTP port is 80 default; 2. Ensure mailbox under use.

4.2.5 Superior user

For some net familiar users, they can combine port transfer with DDNS to login IPCAM

1. Setup port mapping on route port transfer/virtual service for IPCAM by manual.
2. Finish DDNS setup on router
3. Login IPCAM by applied domain name

4.3 IPCAM link with Internet by fixed IP



Picture 4.5 Use static IP link with Internet

This mode is popular for enterprises that have static IP address. The firewall will block all the net equipments' data exchanges on internet without UPNP's port mapping. Therefore LAN link with Internet bypass firewall. Router needs further setup if login IP Cam on Internet.

■ Router/Gateway installation

User can involve IPCAM by router's public address with port number, in intranet that has same port parameter. This is port transfer/virtual server function in which route will switch appointed data between remote computer and local IPCAM as required.

1. Set and keep a static IP Address and Second Http Port.
2. Open router ***Port mapping setup*** page, appoint the address and port to IPCAM.
3. Finish above steps, type in router's public address and port for required IPCAM on browser.
4. User can define serial ports for serial IPCAMs, the port can be consider IPCAM's digital nick name.

As picture4.5, for example, public router's IP address is 220.228.108.5, gateway address is 192.168.3.1, and static address for IP-Com 1 is 192.168.3.111, 2006 as port. For IPCAM 2 is 192.168.3.112, 2007 as port.

The above is port transfer for setup router

Application Program	Transfer port	Initial port	IP address
IPCAM 1	2006	2006	192.168.3.111
IPCAM 2	2007	2007	192.168.3.112

Router acquires and transfers to 192.168.3.111 automatically with http://220.228.108.5:2006 inputted (IP address is 220.228.108.5; Port number is 2006.), thus IPCAM 1 and PC links together, user can capture it through internet.

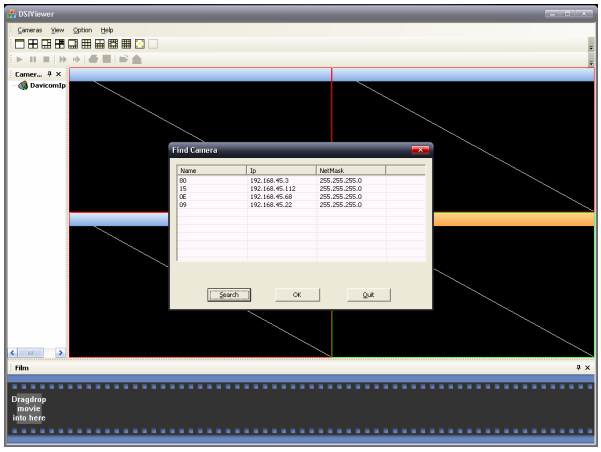
※**Notice:** IP address enables IPCAM login on Internet, if not, Nat Traversal can also support user view IPCAM while link with Internet. Former is better effect.

Chapter 5 View/Record

This chapter describes how to watch IPCAM, record, play back and other functions through DSIViewer.

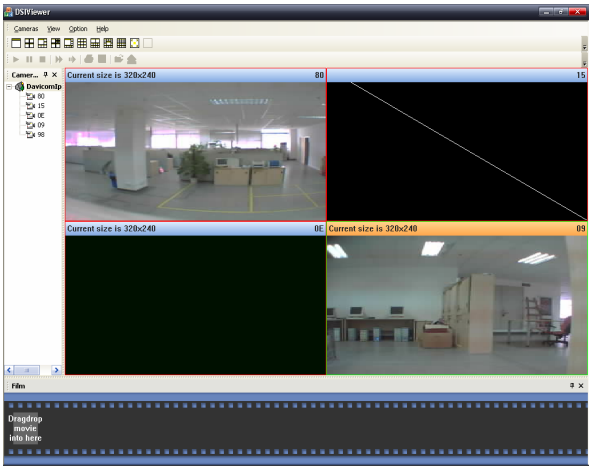
5.1 Main Interface

After DSIViewer installation, program runs automatically by 【**Finish**】. For first time, 【**find camera**】window ejects and searches for IPCAM on LAN, then display on window. Alternatively, click 【**Find cameras**】 in 【**Cameras**】 to get it as Picture 5.1.



pic5.1 ***find Camera*** window

DSIViewer scans all IPCAM on LAN and display all information in this window. Click ***"OK"*** (Program will use default account to link for first time) and all image information shows after login as picture 5.2.



Picture 5.2 Main interface

In picture 5.3, **1** is menu, **2** is window layout bar, **3** is play bar, **4** is Cameras menu, **5** is IPCAM play window, **6** is Burn-in

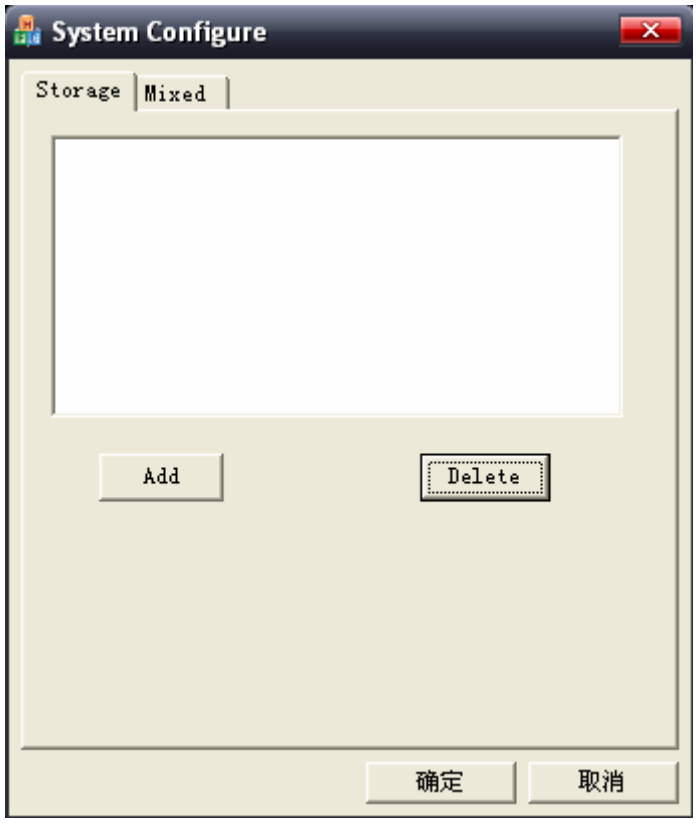
Menu includes for choices: 1. ***Cameras*** 2. ***View*** 3. ***Option*** 4. ***Help***

Establish a new group or IPCAM in pull down **Cameras** menu, click **【find cameras】** and window as Picture 5.1 ejects, then look for it again.

Select to show layout, play, burn-in bar and Cameras menu in screen or not by ticking the items in pull down View menu.

Click **【preferences】** in Option and **【System Configure】** window will eject, as picture 5.3, you can select video record file path in hard disk. If there are one more segments, you can choose multi paths. Click **【mixed】**in Option to setup the net relay server. In fact, that is Nat Traversal Service. This function matches requirement to watch remote IPCAM on web. Please refer detailed setup in next Chapter.

Click **【Help】** then you can get more information.



pic5.3 ***System Setup*** interface

5.2 Real-time Surveillance

Adjustment for ***view*** window

DSIViewer shows all IPCAM images in window, default is 4-in-1 display as picture 5.2, and IDs display in left as Picture 5.4. View section will show IPCAM one by one in it. When the number of IP Cam is more than view windows, rear ones do not show and then you can choose one hauling into any windows.

pic5.4 ***Cameras*** menu

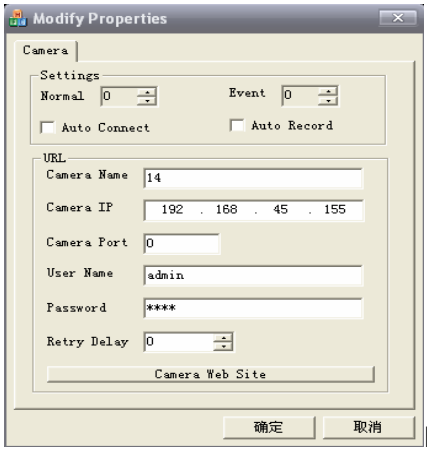
Click the button in window layout toolbar in picture 5.5, then user can set to show how many IPCAM in interface and how to layout.

pic5.5 ***Layout toolbar***

Setup IPCAM Parameter

In【**Cameras**】as picture 5.4, select an IPCAM and click mouse right key, then ejects a 【**property**】menu in which user can rename your IPCAM, delete current one or amend parameter, even break/connect it and record/stop video. User can also check historical record by clicking 【**view log**】. Click mouse right key in IPCAM **view** window, then ejects another one that includes 1. Play stream file; 2.connect; 3.break; 4.record 5.stop; 6. View log. Its function is same as menu ejects in Cameras except 【**play stream file**】, which playbacks video in current window.

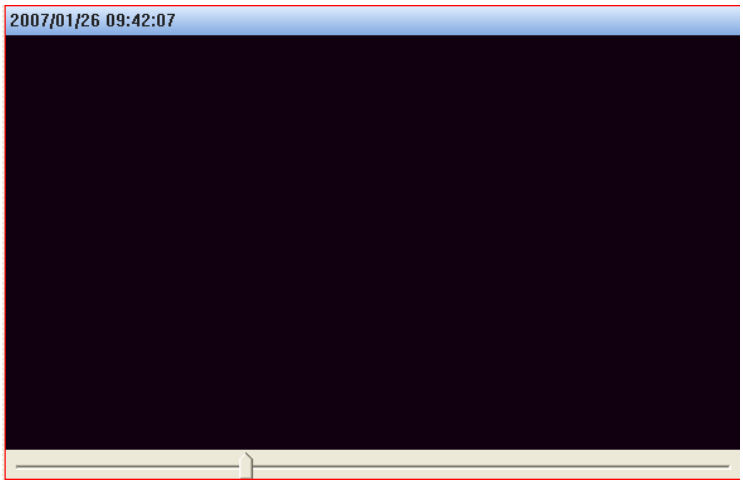
Click【**Edit**】and get IPCAM property window on, then user can edit link parameter as picture 5.6



Pic 5.6

5.3 Record/View

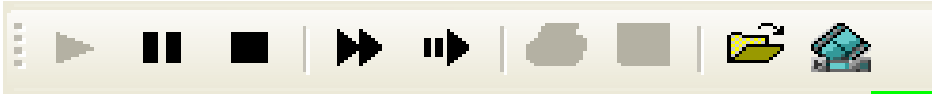
In left side of ***"Cameras"***, click left key to get folder on, then all detected IPCAM names display, click right key to choose one, this function starts up after choosing **【record】**, click **【stop】** to cease it. Alternatively, select one play window, click right key and **【record】**, then it begins recording. Video file saves in DSIViewer default **【storage】** folder. Application program will establish a file to keep each found IPCAM and name as Davicom IP Camera + ID. User can select new path under option—>preferences—>storage. As Windows system has several segments, select multi-paths.



pic5.7 ***Play*** window

After record, user can replay video. Choose any window and get **【play stream file】** on, then ejects a menu, choose the video file and click **【Enter】** to watch it. As picture 5.7 PC video record time at top and course at bottom which user can haul what you want.

Select the window which video is playing, user can watch it by toolbar. As picture 5.5, from the left to right is play, pause, stop, accelerate slowdown, open the file, and burn-in.



5.4 Burn-in

Video plays only under DSIViewer, and convert it to recognizable format of common player, as well as link several segments into a video file.

Get video file on and haul it to the bottom File toolbar, then click the right button as picture 5.8

Chapter 6 FAQ

1. **I can't set IP Cam through the link of Web Browser.**
2. **DSIViewer doesn't list all the IPCAMs?**
3. **When I try linking with net camera, there get a notice to input user name and password.**
4. **Why the image quality suddenly worsens?**
5. **Dynamic Detection Function can send E-mails to me, can't it?**
6. **With the features of Dynamic Detection, I can get notice of E-mails, but I can't see any activity record.**
7. **Use NAT Traversal but I can't find my IPCAM on IPCAM server.**
8. **I can enter my IPCAM web page, but can't watch video/image on this web page.**
9. **The video/image works successful at DSIViewer but can't enter IPCAM web page successful at browser.**
10. **Use IE(Microsoft Internet Explorer) browser to watch the ActiveX mode of IPCAM web page was failed.**
11. **DSIViewer searched IPCAMs slowly.**
12. **The wired mode works successfully but the wireless mode connects fails.**
13. **How to configure the IPCAM server parameter by DSIViewer?**
14. **Upgrade firmware version was failed.**

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1. I can't set IP Cam through the link of Web Browser.

Answer: Perhaps your PC IP Address and net camera are not in the same net segment. Please configure your camera available address with DSIViewer

2. DSIViewer doesn't list all the IPCAMs?

Answer: Please check

1. IPCAM's power, net link and installation ok or not
2. Confirm PC and net camera in the same net segment.
3. Confirm PC has installed TCP/IP protocol. In Windows, please click

control-panel and net card, open its property, set IP Address, gateway, and sub mask.

4. If net server has DHCP, select ***"get IP Address automatically"*** on;
5. Otherwise, select ***"appointed IP Address"*** and input correct IP Address gateway and sub mask. On LAN all net equipments must use the same parameter except IP address.

3. When I try linking with net camera, there get a notice to input user name and password.

Answer. If you want to adjust Cam's parameter, please use administrator account, or to be an audience just need user's account. If any login problem issue, please contact with administrator.

4. Why the video quality suddenly worsens?

Answer: When another user links with camera, camera has more loads and occupies more bandwidth. Quality increases through adjusting the side and quality of image too.

5. Dynamic Detection Function can send E-mails to me, can't it?

Answer: This happens as SMTP server can't accept the E-mail from net camera. Please try another SMTP server and ensure your mailbox under use. Perhaps your box is full.

6. With the features of Dynamic Detection, I can get notice of E-mails, but I can't see any activity record.

Answer: Dynamic Detection Function actually can't detect any activities as it depends on the comparison of the frame rate. Most difference causes by moving objects.

However, Dynamic Detection can also cause by:

1. Brightness changes suddenly
2. Camera's movement

7. Use NAT Traversal but I can't find my IPCAM on IPCAM server.

Answer7: Firstly, please check for the NAT Traversal setting correctly. because the address may be changed by the IPCAM server. Our default IPCAM server is http://ipcam.davicom.com.tw , and default IP address is "220.228.108.5" and the user could double check on our Web page http://ipcam.davicom.com.tw:8080 .

Secondly, please check for the internet access, because there is a possibility that

the IPCAM can't get correct IP address. The directions are following:

- **DHCP IP**: Check to see if the DHCP service of router works on LAN, because without DHCP service the IPCAM is unable to capture IP address. Besides If your IPCAM capture IP address is private (for example "169.254.＊.＊"),such IP address is not allowed to Internet access.
- **Static IP**: Please check for all the setting: IP address, gateway address and DNS are all correct.

  ※The gateway address and the DNS address could refer to the PC setting.

8. I can enter my IPCAM web page, but can't watch video/image on this web page.

Answer8: You have to install the ActiveX plug-ins before see IPCAM video/image. If the browser stops the ActiveX plug-ins install, please click the yellow warning bar at the top of the browser window to show the installation.

What if I still could not view at ActiveX mode? The security level is higher than normal security stop install ActiveX plug-in. Please select IE browser tool bar **【Tools】→【Internet Options】→【Security】→【Custom Level】→【Security Settings】**, click **【ActiveX controls and plug-ins】**, click **Download unsigned ActiveX controls <Enable>** and **Initialize and script ActiveX controls not marked as safe <Enable>,** click **OK** and then click **OK** once again**.**

The IPCAM also support Java Applet mode, if you want to use this function please install JVM (Java virtual machine) on your PC. (You can go to Sun Java website to download and install the last version of JVM. Sun Java website: http://www.java.com/en/download/)

9. The video/image works successful at DSIViewer but can't enter IPCAM web page successful at browser.

Answer9: The browser is used to connect the proxy server at the first time so that you will not see the IPCAM website on LAN. If you want enter the IPCAM web page, please try to pass through the IPCAM server or turn off your browser's proxy function under the proxy server,

Turn off the proxy of the IE browser: select IE browser tool bar **【Tools】→【Internet Options】→【Connections】→【LAN Settings】**→Cancels **【Use a proxy server for your LAN】**, chick **OK** then **OK** again.

10. Use IE(Microsoft Internet Explorer) browser to watch the ActiveX mode of

IPCAM web page was failed.

Answer10: Please your IE setup **<prompt >** or **<Enable>** to ActiveX file., select IE(Microsoft Internet Explorer) browser tool bar **【Tools】→【Internet Options】→【Security】→【Custom Level】→【Security Settings】**, click **【ActiveX controls and plug-ins】** , change this part setting to **<prompt >** or **<Enable>**.

11. DSIViewe searched IPCAMs slowlyr.

Answer11: If you want to make the speed of search faster, please update the latest IPCAM firmware version with the latest version of DSIViewer.

※Refer to http://ipcam.davicom.com.tw:8080

12. The wired mode works successfully but the wireless mode connects fails.

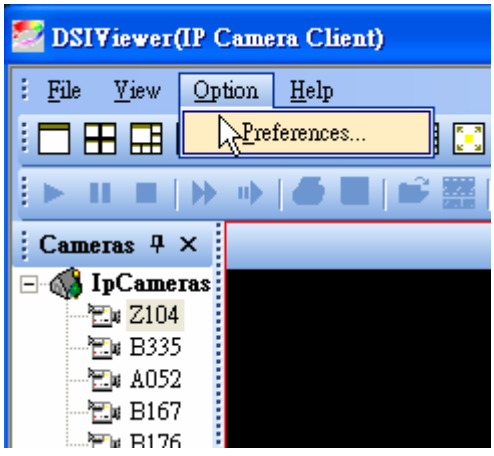
Answer12: Please make the wireless setting as the same as the wireless router (AP)., especially the WEP and WPA configuration.

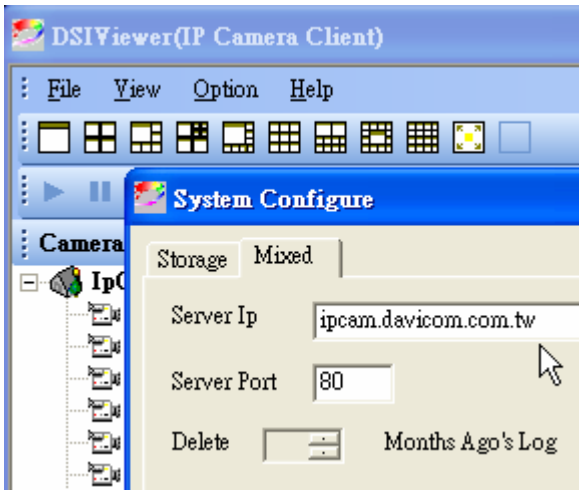
※ Refer to ***3.12. Wireless (ONLY wireless IPCAM)***

13. How to configure the IPCAM server parameter by DSIViewer?

Answer13: Select on the top of DSIViewer's tool bar 【Option】→【Preferences…】→chose【Mixed】→change setting at 【Server IP】box.

※Default value " ipcam.davicom.com.tw" is DAVICOM Taiwan server.





14. Upgrade firmware version was failed.

Answer14: Please select English to be the user language, and upgrade firmware version to **IPCAM-1001-1217_TW** or more.

※ Refer to ***3.10. Tools***.